

A view from onboard the ORBIS flying eye hospital



The famous ORBIS flying eye hospital recently touched down in Dublin on a goodwill visit to promote awareness of global blindness. ORBIS staff and volunteers spoke with *EuroTimes* assistant editor Roibeard O'hEinechain about their sight-saving programmes and their motivation for participating.

The mission of ORBIS is to eliminate preventable blindness, which accounts for three-quarters of blindness worldwide. They carry out programmes of the areas in the world where the need for improved eye care is the greatest, with the aim of improving the surgical skills and practices of local ophthalmic surgeons and nurses.

In the 23 years since its inception, ORBIS has conducted over 230 programmes in 67 countries, treating thousands of patients and training over 70,000 doctors. In addition to their Flying eye hospital programme, ORBIS has established country offices for hospital based training programmes in China, Bangladesh, Ethiopia, India and Vietnam.

"It's all basically partnering. We are not there to do volumes of surgery, we are teaching surgeons how to do the surgery. When they learn it, they can continue to do that surgery forever. It's like teaching a person to fish rather than giving him a fish. By doing that you're putting a permanent solution in place," said Harish Nayak MD FRCS, an ophthalmologist currently based in University Hospital Wales, Cardiff, UK, who has participated in several ORBIS programmes.

Dr Nayak gained his first exposure to ORBIS when their programme took place in his native Bangalore, India, where he was training to become an ophthalmologist. He subsequently worked two years as a staff

ophthalmologist on the ORBIS plane and for another two years as chief ophthalmologist.

"You meet people from so many different countries, there were people of 10 different nationalities on the plane at the time and we stay in touch, it's like a family. At present I am completing my training to become a consultant but I intend to go on further programmes with ORBIS in the future," Dr Nayak added.

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Pauline Dabydeen RN

Travelling surgical theatre

The ORBIS plane is a specially modified DC-10 which includes a complete ophthalmic operating suite together with a



Harish Nayak



Pauline Dabydeen



Carlos Eduardo Solarte

four-bed pre-op and recovery room. The plane also has a lecture theatre where up to 48 doctors from the host country can watch live surgery and question the surgeon throughout each procedure.

"We have the latest equipment available that you'd find in any hospital in the US or Europe. We have phaco equipment and the latest microscope. We are equipped to highest standard of any ophthalmic hospital that you could find in the western world," said ORBIS staff nurse, Pauline Dabydeen RN.

Ms Dabydeen became part of the ORBIS team following her retirement from her job as an assistant in charge of the ophthalmic theatre in University Hospital Glasgow.

"I'd been working there as an ophthalmic nurse for 24 years so I thought I'd put the skills I'd acquired to some good use," she said.

ORBIS initiate their programmes in response to an invitation from the host country's minister of health or national ophthalmic society, Ms Dabydeen noted. They then make planning visits to the country determine their needs and find out what facilities are available, she said.

"Different countries have different needs so we cater to their needs, seeing how we can help them best. We demonstrate the latest equipment on board to update them on the latest technologies but we also show them how they can improve the services with the equipment that they have in the local hospital. It's no good just showing them all of the latest equipment if



Pamela Tarongoy



Anne Marie Ablett

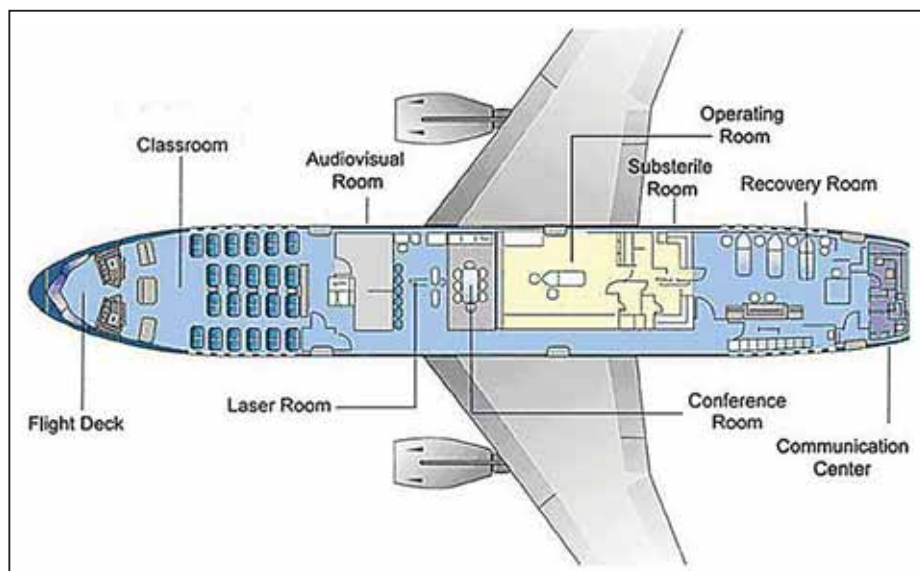
they can't afford it," she added.

There is usually an interval of about a year from when ORBIS receive their invitation and when the plane actually travels to the host country. ORBIS conducts six to eight programmes a year and each programme lasts about three weeks. During that time the ORBIS team carry out training both on the plane and in the local hospital.

Usually around 20 people will be on the plane. The ORBIS crew includes five scrub nurses, one nurse anaesthetist, two biomedical engineers, four ophthalmologists, two flight mechanics, and the volunteer pilots from United Airlines and FedEx who fly the plane.

A step along the path to modern surgical techniques

The surgical materials and equipment are provided through generous donations from companies like Alcon and Bausch & Lomb. While ORBIS does not usually donate equipment to the host countries, they are often able to provide valuable training in local hospitals in the use of equipment they have received from other sources.





"Oftentimes they will have equipment obtained from other international organisations but they don't know how to use them properly," said ORBIS Medical Director, Carlos Eduardo Solarte MD.

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Carlos Eduardo Solarte MD

Dr Solarte became involved with ORBIS at the encouragement of one of his professors, Francisco Barraquer MD, at the Barraquer Institute in Bogotá, Colombia, where he received his training in ophthalmology. Dr Barraquer was a participant in one of the first ORBIS programmes, in Tunisia in 1982.

"He was telling me about the ORBIS project and he recommended that I apply. I volunteered to stay for a couple of months and I have been with them for three years now."

ORBIS selects their staff and guest ophthalmologists based not only on their skills and training as surgeons but on their ability as teachers, Dr Solarte said. The selection process usually takes about a year, he noted, adding:

"It's very rewarding when you can see that you have helped change things for the better. You cannot change a country from intracap to phaco in one day but you can take them a step along the path."

Non-phaco small incision cataract technique

As cataracts account for approximately half of the cases of blindness worldwide, one of the main techniques which ORBIS teaches doctors in their host countries is a small incision cataract surgery procedure which does not involve phacoemulsification but which is nearly as nontraumatic to the eye.

"The small incision technique is a unique approach to cataract surgery and is very suitable to high volume surgery. It is used most in Asia where we get a lot of cataracts. Phaco is a superior procedure but it is also more expensive," said Pamela Tarongoy MD.

The technique involves first making a self-sealing limbal or corneolimbic frown incision that is 4.0 mm externally and 4.0 – 5.0 mm internally. Afterwards the surgeon performs capsulorhexis with a cystotome, carries out hydrodissection and then extracts the nucleus in one piece.

"The wound is bigger internally than it is externally so they can just scoop it out. When they do their hydrodissection they leave most of the cortical material behind and just the nuclear material comes out into the anterior chamber."

Dr Tarongoy said she first became interested in ORBIS during her residency training in Cebu in the Philippines. Her professor had organised the ORBIS programme in Cebu in 1999 and she was therefore very familiar with the ORBIS training materials. In addition one of the nurses at her hospital was recruited on a fulltime basis.

She noted that the guest doctors who accompany each programme bring with them a wide range of skills and experience which have contributed greatly to her continuing medical education.

"I'm particularly interested in the exchange of skills. For me it is a fellowship training, I would never have gotten to see the surgery of the guest doctors otherwise. And it's not just doing surgery and leaving. We stay there for a while, usually around two weeks, and impart new techniques to the host doctors that they can use when we leave."

Volunteers add to team's enthusiasm

The volunteer doctors and nurses who participate in ORBIS programmes do so free of charge and sometimes at their own expense. One such is volunteer Anne Marie Ablett an ophthalmic nurse at the University Hospital of Wales in Cardiff, UK, who began volunteering with ORBIS in 2002.

"I became involved in ORBIS through one of the surgeons in Cardiff who had been involved in ORBIS for about six or seven years. I asked him how I might participate and he told me it was impossible because they didn't have volunteer nurses. So I asked if I could go if I paid my own way and he said yes and he arranged for me to go," she said.

Ms Ablett noted that on her first ORBIS programme, to Chittagong, Bangladesh, she experienced a profound degree of culture shock. But this feeling was soon transformed into an increased motivation participate in



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Anne Marie Ablett RN

further ORBIS programmes, she said.

"It was very distressing, the people are so poor and yet they're always smiling. Once you see the great need they're in you feel obliged to do something."

She noted that the warm and appreciative welcome she and other members of the ORBIS team received on each of their visits more than compensated her for her time and effort.

"Once you make the commitment it's easy from there because the nurses in the host countries are so welcoming. They want everything you can give them whether it be practical literature or journals, anatomy, physiology, or teaching in basic things like how to put on their gowns so they don't contaminate themselves."

Ms Ablett said that one aspect of the programme she found particularly rewarding was the way it enabled her to witness firsthand how improved eye care can raise the standard of living, not only for the individual patients, but for whole communities.

As an example, she described the case of a young woman in Chittagong who walked for about five hours to get to the pre-selection clinic, even though there was no guarantee that she would be chosen to undergo surgery.

The woman had an enormous cyst on her eye which had been growing since she was a small child. She was chosen for surgery because she was a good local case and a good case for teaching doctors how to excise such cysts. It took the ORBIS surgeons about two hours to remove the cyst and another 30 minutes to repair her eyelid, which had become deformed.

"As soon as that was done there was applause and tears and it was so emotional. As a result of the surgery she could close her eyes properly and she was marriageable which meant she was no longer a burden to her family."